

PROPOSITION 1E STORMWATER FLOOD MANAGEMENT GRANT APPLICATION
CITY OF PALM SPRINGS
TAHQUITZ CREEK LEVEE RECONSTRUCTION
ATTACHMENT 6
MONITORING, ASSESSMENT, AND PERFORMANCE MEASURES

Project Goals

The goal of this project is to allow for the repair and reconstruction of an existing flood control levee along the Tahquitz Creek within Palm Springs, CA, from its confluence with the Palm Canyon Wash extending upstream approximately 0.75 miles adjacent to the City's WWTP. The repair and reconstruction of the levee would ensure the levee satisfies federal requirements for levee construction established in 44 CFR 65.10, and that the levee would withstand the effects of a 100-year storm in Tahquitz Creek and provide flood control protection to the adjacent WWTP.

FEMA completed digital Flood Insurance Rate Maps (DFIRM's) for Riverside County, which were adopted August 28, 2008. As part of this process, FEMA required that communities provide evidence to demonstrate that levees meet the minimum requirements established in Title 44, Chapter 1 of the Code of Federal Regulations, Section 65.10. The Tahquitz Creek Levee has been identified as a "Provisionally Accredited Levee" ("PAL"), Levee ID 16, as the City has been unable to demonstrate that this levee meets all of the requirements set forth in 44 CFR 65.10. The levee does not meet freeboard and other requirements, and must be repaired and reconstructed in order to satisfy FEMA's requirements and ensure the levee continues to provide flood control protection to properties behind it, including the City's WWTP. The failure of the Tahquitz Creek levee during a 100-year storm represents a risk of releasing millions of gallons of untreated wastewater into the Tahquitz Creek, resulting in significant pollution of stormwater runoff and groundwater within Tahquitz Creek.

Desired Outcomes

This Proposal addresses the adopted Coachella Valley IRWM Plan's goals and objectives in the following ways:

Satisfies Objective A: "Provide reliable water supply for residential and commercial, agricultural community, and tourism needs". Failure of the Tahquitz Creek levee during a 100-year storm has the potential to cause release of wastewater effluent from the City's WWTP into Tahquitz Creek, causing significant pollution of stormwater runoff and groundwater within Tahquitz Creek.

Desired Outcome: Maintain City's delivery of treated wastewater effluent to Desert Water Agency for reclamation purposes by protecting the City's wastewater treatment plant from flooding during a 100-year storm.

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Output Indicator: Millions of gallons of treated wastewater delivered to DWA (baseline = 1,461.603 MG treated and delivered to DWA in 2010 calendar year).

Satisfies Objective E: “Protect groundwater quality and improve, where feasible.” Failure of the Tahquitz Creek levee during a 100-year storm has the potential to cause release of wastewater effluent from the City’s WWTP into Tahquitz Creek, causing significant pollution of stormwater runoff and groundwater within Tahquitz Creek.

Desired Outcome: Prevent release of untreated wastewater into Tahquitz Creek from the City’s wastewater treatment plant during a 100-year storm.

Output Indicator: Gallons of untreated wastewater discharged into Tahquitz Creek due to failure of the Tahquitz Creek Levee during a 100-year storm (baseline = 0 gallons).

Satisfies Objective F: “Preserve and improve surface water quality by maintaining integrity of agricultural drainage systems, protecting the quality of natural runoff used for potable supply, and reducing pollution in stormwater runoff.” Failure of the Tahquitz Creek levee during a 100-year storm has the potential to cause release of wastewater effluent from the City’s WWTP into Tahquitz Creek, causing significant pollution of stormwater runoff and groundwater within Tahquitz Creek.

Desired Outcome: Prevent release of untreated wastewater into Tahquitz Creek from the City’s wastewater treatment plant during a 100-year storm.

Output Indicator: Gallons of untreated wastewater discharged into Tahquitz Creek due to failure of the Tahquitz Creek Levee during a 100-year storm (baseline = 0 gallons).

Satisfies Objective G: “Preserve local environment and restore, where feasible.” Failure of the Tahquitz Creek levee during a 100-year storm has the potential to cause release of wastewater effluent from the City’s WWTP into Tahquitz Creek, causing significant pollution of stormwater runoff and groundwater within Tahquitz Creek.

Desired Outcome: Prevent release of untreated wastewater into Tahquitz Creek from the City’s wastewater treatment plant during a 100-year storm.

Output Indicator: Gallons of untreated wastewater discharged into Tahquitz Creek due to failure of the Tahquitz Creek Levee during a 100-year storm (baseline = 0 gallons).

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Satisfies Objective H: “Manage flood risks, including current acute needs and needs for future development.” The existing Tahquitz Creek levee adjacent to the City’s WWTP does not meet minimum levee requirements set forth in 44 CFR 65.10 and must be repaired to satisfy those requirements in order to provide flood control protection to properties behind it. Failure of the levee in a 100-year storm represents a flood risk to the City’s WWTP, which has the potential to cause release of wastewater effluent from the City’s WWTP into Tahquitz Creek, causing significant pollution of stormwater runoff and groundwater within Tahquitz Creek.

Desired Outcome: Repair and reconstruct Tahquitz Creek Levee to withstand the affects of a 100-year storm.

Output Indicator: Miles of levee repaired and reconstructed to withstand the affects of a 100-year storm.

Outcome Indicators

Measures used to evaluate change that is a direct result of the work include the following three metrics:

1. Millions of gallons of treated wastewater delivered to DWA for reclamation purposes;
2. Volume of untreated wastewater discharged into Tahquitz Creek;
3. Linear feet of levee that failed during significant storm event

Measurement Tools and Methods

The metrics identified to monitor, assess and determine performance of the project include on-going reporting of the City’s treatment of wastewater at its WWTP, which includes identifying the volume of treated effluent delivered to DWA for reclamation purposes and the volume of treated effluent discharged to land within the percolation basins at the WWTP. Monitoring of WWTP operations during significant storm events, including monitoring of the stability of the Tahquitz Creek Levee, will provide measurement indicators to determine the overall performance of the project in light of the repair and reconstruction of the Tahquitz Creek Levee and its ability to withstand the affects of a 100-year storm in the Tahquitz Creek.

A Project Performance Measurements Table is included on the following page.

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PROJECT PERFORMANCE MEASUREMENTS TABLE

Objective	Outcome	Output	Target
Provide reliable water supply for residential and commercial, agricultural community, and tourism needs.	Maintain City's delivery of treated wastewater effluent to Desert Water Agency for reclamation purposes by protecting the City's wastewater treatment plant from flooding during a 100-year storm.	MG (Millions of Gallons)	2010 Baseline = 1,461.603 MG
Protect groundwater quality and improve, where feasible.	Prevent release of untreated wastewater into Tahquitz Creek from the City's wastewater treatment plant during a 100-year storm.	Gallons	0 Gallons
Preserve and improve surface water quality by maintaining integrity of agricultural drainage systems, protecting the quality of natural runoff used for potable supply, and reducing pollution in stormwater runoff.	Prevent release of untreated wastewater into Tahquitz Creek from the City's wastewater treatment plant during a 100-year storm.	Gallons	0 Gallons
Preserve local environment and restore, where feasible.	Prevent release of untreated wastewater into Tahquitz Creek from the City's wastewater treatment plant during a 100-year storm.	Gallons	0 Gallons
Manage flood risks, including current acute needs and needs for future development.	Repair and reconstruct Tahquitz Creek Levee to withstand the affects of a 100-year storm.	Miles	0.75 Miles